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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,834	12/11/2001	Ahmad Reza Kashani	KAS 0001 1A	4780
23368	7590	06/16/2006	EXAMINER	
DINSMORE & SHOHL LLP ONE DAYTON CENTRE, ONE SOUTH MAIN STREET SUITE 1300 DAYTON, OH 45402-2023			CHAU, COREY P	
			ART UNIT	PAPER NUMBER
			2615	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/014,834		KASHANI, AHMAD REZA	
	Examiner		Art Unit	
	Corey P. Chau		2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-21, 25, 27-31 and 36 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-3, 6-21, 25, 27-31, and 36 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

Election/Restrictions

1. This application contains claims directed to the following patentably distinct species:

Embodiment 1: Fig. 1.

Embodiment 2: Fig. 12.

The species are independent or distinct because in embodiment 1, a system for **actively damping low-frequency coloration of sound** comprising: an electronic feedback controller defining an input coupled to said first signal and an output, wherein said electronic feedback controller is operative to generate said second signal at said output by applying a feedback controller transfer function to said first signal, said feedback controller transfer function comprises a second order differential equation including a first variable representing a predetermined damping ratio and a second variable representing a tuned natural frequency, said second variable representing said tuned natural frequency is selected to be tuned to **said at least one mode of low-frequency coloration**, said feedback controller transfer function defines a frequency response having a characteristic maximum gain substantially corresponding to the value of **said at least one mode of low-frequency coloration**, and said feedback controller transfer function creates a 90 degree phase lead substantially at **said at least one mode of low-frequency coloration**, **said feedback controller transfer function is augmented by the inverse of an acoustic wave actuator transfer function of said acoustic wave actuator to produce an augmented feedback controller transfer function**, and said augmented feedback controller transfer function is as follows:

$$\frac{V(s)}{P(s)} = G \frac{s^2 + 2\xi_s\omega_s s + \omega_s^2}{s^2 + 2\xi\omega_n s + \omega_n^2}$$

where the units of V(s) corresponds to said rate of change of volume velocity, P(s) corresponds to the pressure at the location of said acoustic wave sensor and said acoustic wave actuator, s is the Laplace variable, ξ represents a damping ratio of an acoustic damping controller, ξ_s represents a damping ratio of said acoustic wave actuator, ω_n is said tuned natural frequency, ω_s is a natural frequency of said acoustic wave actuator, and G is a gain value. In embodiment 2, a system for **actively treating noise** within a fluid-carrying duct comprising: an electronic feedback controller defining an input coupled to said first signal and an output, wherein said electronic feedback controller is operative to generate said second signal at said output by applying a feedback controller transfer function to said first signal, said feedback controller transfer function comprises a transfer function **simulating (i) a low pass acoustic filter of the form $LP = C s^2$** where C represents compliance of the simulated low pass filter and s is the Laplace variable, **(ii) a high pass acoustic filter of the form $HP = 1/L$** , where L represents inertance of the simulated high pass acoustic filter or **(iii) a passive, band reject, acoustic filter** comprising a second order differential equation including a first variable representing a predetermined damping ratio and a second variable representing a tuned natural frequency, said second variable representing said tuned natural frequency is selected to be tuned to said frequency of disturbance, and said feedback controller transfer function defines **a frequency response having a**

characteristic maximum gain substantially corresponding to the value of said frequency of disturbance.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.
MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Conclusion

2. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Division 2615. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 11, 2006
CPC


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600